

MAMA

2nd meeting, Oristano, July 8-9 2002

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Workpackage-4: MAMA-Model:

Objectives:

Assess the needs for modeling capabilities for local forecasting systems.

Capacitate in state of the art for numerical modeling

- **Task 4.1:** *Definition of coastal/shelf modeling areas*
- **Task 4.2:** *Compilation of historical regional climatologies*
- **Task 4.3:** *New model implementations*
- **Task 4.4:** *Model results assessment*
- **Task 4.5:** *Expert meeting on forecasting system design*

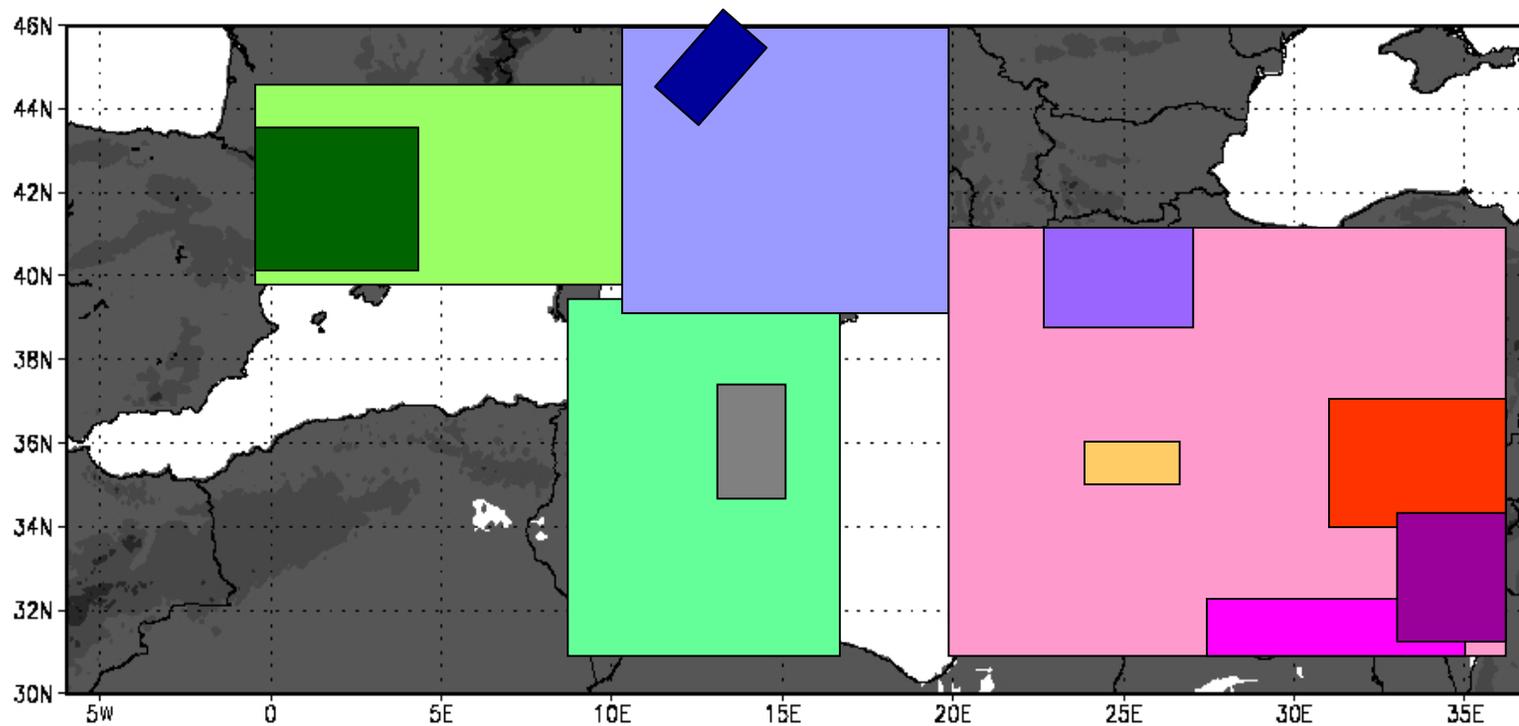
Task 4.1: Definition of coastal/shelf modelling areas

Produce documentation on existing modelling systems (MFSPP and others).

Identification of the shelf/coastal areas candidate for new model implementations.

The MFSPP nested modeling approach

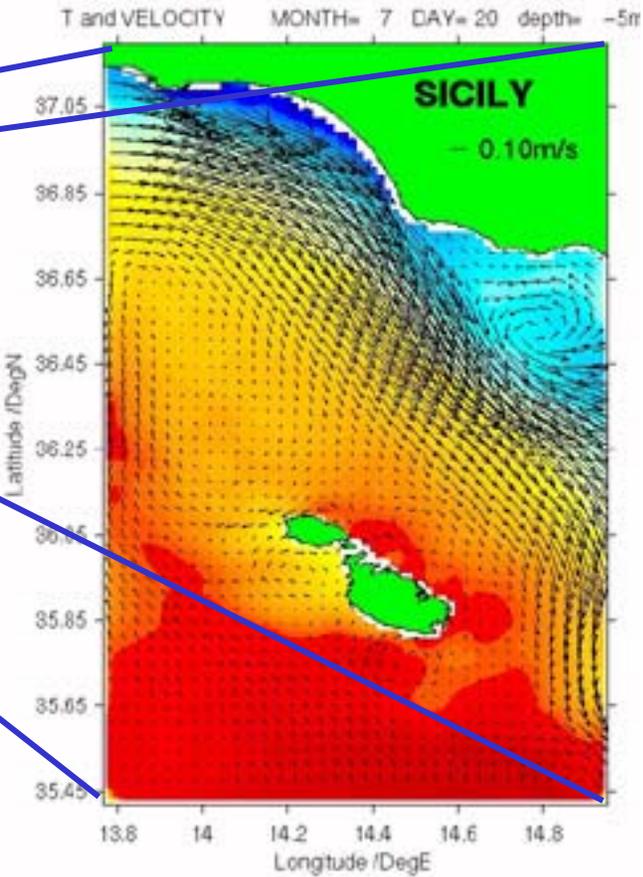
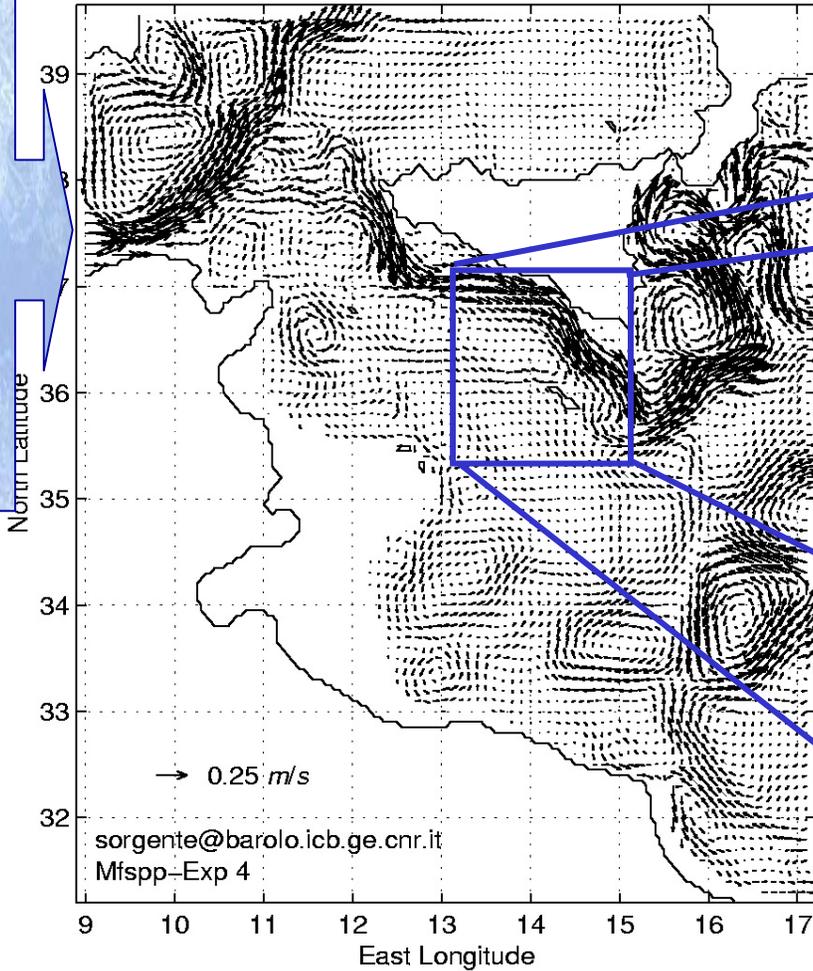
A hierarchy of nested numerical models covering The Mediterranean Sea from the basin to the Regional/Shelf scale



OGCM- Sicilian regional-Malta shelf

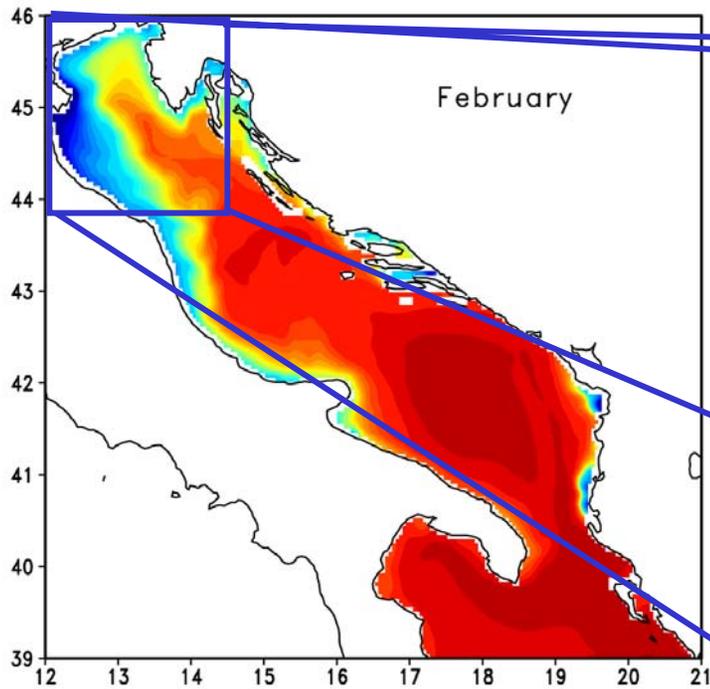
OGCM

1-10 Aug (3 yr.) - Total velocity field at 30 meters depth.

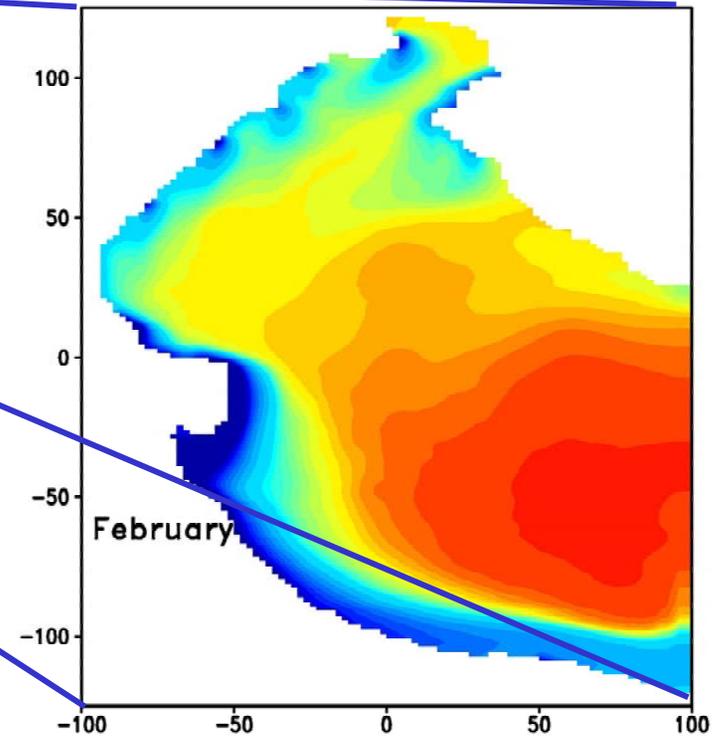


MFSP - Implementation

5 km regional model



1.5 km shelf model



OGCM- regional Adriatic - Northern Adriatic shelf

MFSPP developed considerable (and usable) experience in one way off-line nesting technique



A report on the development and the implementation of the MFSPP nesting technique is available on the web:

www.ambra.unibo.it/rasponi/sincem/mfsppwp6/nesting.html

Status: Document downloaded by several MAMA participants

Identification of regions for new coastal/shelf model implementations.

Desirable prerequisites for a candidate region are:

- ***Known phenomenology (based of existent scientific literature)***
- ***Climatological data availability (task 4.2) for model validation***

Action

(for FSR, INSTM, LEM, NCMS):

Brief report on:

**Circulation phenomenology
of the coastal/shelf areas candidate
for the modelling exercises.**

Status: INSTM provided a brief report

Availability of hydrological data.

Status: no input received so far.

To be put on the MAMA-web site

Task 4.3: New model implementations

General characteristics:

Based on the Princeton Ocean Model, POM (as the MFSP model family)

Horizontal resolution: between 1.5 and 5 km

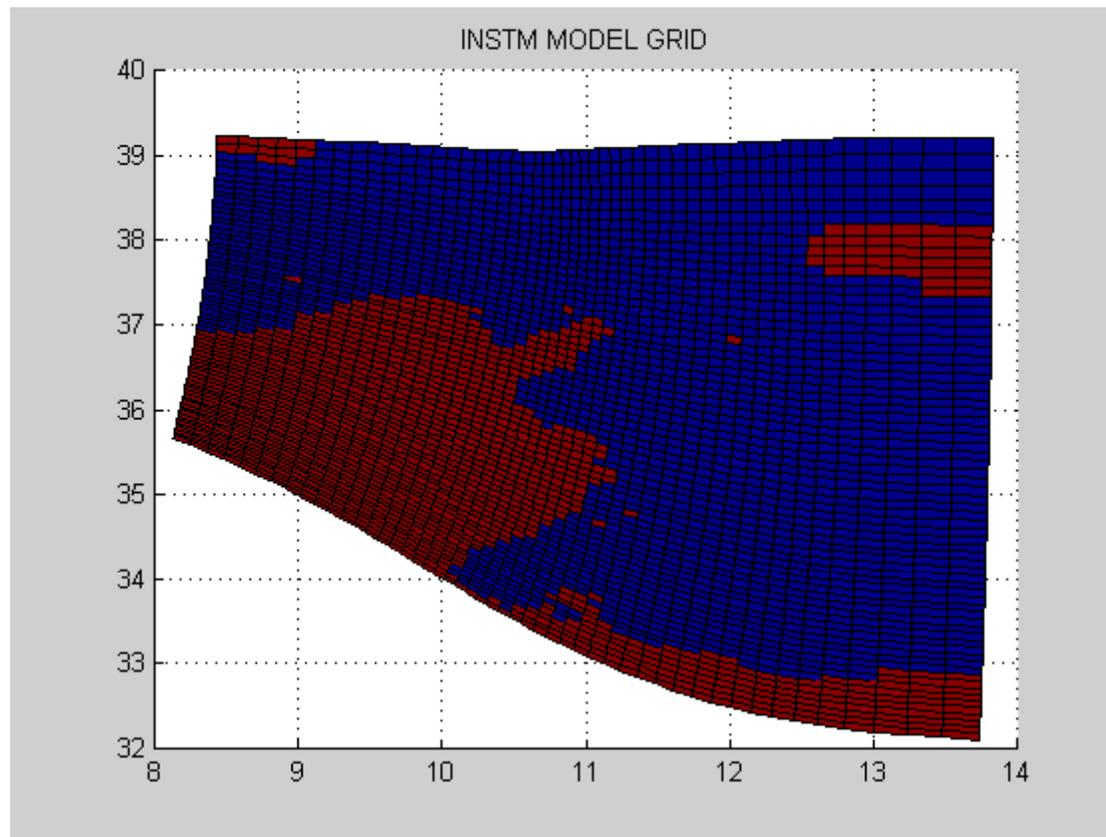
Vertical resolution: to be established

Initial conditions and open boundary nesting data from the 1/8° MFSP-OGCM

Surface Forcing

(wind stress, heat and water flux): climatological

***The INSTM Model
(Resolution to be improved)
Curvilinear grid, POM based***



Princeton Ocean Model (POM)

Web site:

www.aos.princeton.edu/WWWPUBLIC/htdocspom

Lot of useful information

It is possible to register as new user and enter the POM mailing list.

Data availability

***MFSP-OGCM climatological model results:
Available from the MFSP-WP5 web site
(www.cineca.it/mfspp/wp5/frames.html)***

***Climatological surface forcing
from ECMWF reanalysis***

***To be available on the MAMA-WP4
web site***

Mediterranean Bathymetry

***U.S. Navy unclassified 1/60° database
To be available on the MAMA-WP4
web site***

Data availability (2)

***MED-6 monthly Mediterranean Sea gridded
(1°) temperature and salinity fields
(from MEDATLAS)***

***Available from the MFSPP-WP5 web site
(www.cineca.it/mfspp/wp5/frames.html)***

Actions:

Immediately after this meeting

UNIBO and IMC/CNR-S2AM:

Disseminate via web (now operating) their MFSPP POM implementation with accessory codes (initialisation file preparation, surface forcing and open boundary data interpolation, etc.)

FSR, INSTM, LEM, NCMS:

Will start preparing the implementation

September

Start visit of scientists from FSR, INSTM, LEM, NCMS to finalize the implementation